

18. Monkeys and the Fear of Snakes. By P. CHALMERS MITCHELL, D.Sc., LL.D., F.R.S., C.B.E., Secretary of the Society.

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When I became Secretary of the Society, the practice of feeding live animals to snakes was violently attacked, on the ground of cruelty, and vigorously defended as natural and necessary. I enquired into the attack and the defence. The latter was easily disposed of. I could not agree that even if cruelty were part of the order of Nature we were justified in continuing it under artificial conditions. Nor could I accept the odd opinion urged on me in particular by the late Dr. Plimmer that there was merit in the flesh of prey killed by the serpent itself, absent from prey killed by other means. But the question was answered by practice. Mr. E. G. Boulenger, our Curator of Reptiles, to whom I am much indebted for his patient and careful observation of my suggestions, is now in agreement with me that snakes do not require a living prey.

The cruelty alleged by the attack is a more difficult, and from the scientific point of view, more interesting question. So far as I could see, frogs, rats and mice, rabbits, guinea-pigs, fowls and ducks, introduced to snakes, had no sense of impending fate, and treated the creatures which were going to destroy them as indifferent objects. The sense of terror was in the spectators, not in the victims. But I wished to carry the matter further, and, with the assistance of Mr. R. I. Pocock, the Society's Curator of Mammals, made a large series of experiments by introducing live snakes to different kinds of animals. The results of these observations have already been communicated to the Society (P. Z. S. 1907, p. 785), and I have also repeated some of the actual experiments at one of our Scientific Meetings. Except in the cases of a few of the higher birds, notably parrots and Passerines, and the Primates excluding Lemurs, animals show no special relation of fear in the presence of living snakes, even when the latter are allowed to approach them closely, protruding their quivering tongues. But the reaction of fear is immediate and painful to see when a snake is introduced to a parrot or starling in a cage, or to any of the true monkeys from the South American marmosets to the Great Apes.

The instant recognition and betrayal of fear by special sounds and rapid retreat, even in the case of a lethargic old Orang-utan, were so plain that I was disposed to treat them as instinctive, and even went the length of suggesting that the human dread of snakes might be an instinct inherited from our ape-like ancestors.

But "instinct" is a difficult conception, especially in the mental field of higher animals where experience plays a dominating part. For some years I have been waiting an opportunity to see if a monkey born here and reared without any individual experience of snakes would display an instinctive dread of them. That opportunity has not yet occurred. But last year, in January, a young male chimpanzee was sent to us, the youngest I have ever seen, and so small a baby that it seemed not much more than weaned. It thrived in the Ape House, soon lost its shyness, and became quite lively and intelligent. In the course of the summer, with Mr. Boulenger, I took a very active tree-boa to it. Mr. Boulenger held the chimpanzee and I had the snake twisted round my arm, with its head and about 2 feet of neck protruding. I put it cautiously near the chimpanzee, who leaned out towards it; I allowed the flickering tongue of the snake actually to touch the chimpanzee's face; the latter showed no sign of alarm and was quite ready to kiss the snake's mouth. It was clear that, in this case, no particle of dread of the serpent was present. Since then, the chimpanzee has on several occasions been shown snakes, including a large King snake. The latter he handles quite freely, plays with it and pulls it about.

It is possible that this case is an example of failure of the development of a normal instinct in an individual. This may be true, and I do not wish to found a general conclusion on a single example. But so far as the evidence goes, it would appear that the dread of snakes is not instinctive in chimpanzees. As it is certainly present in the older chimpanzees on which I have made the experiment, the alternative is to suppose it an acquisition due to experience or the imitation of other chimpanzees which have had individual experience.